

(19)



Europäisches Patentamt

European Patent Office

Office européen des brevets

(11)

Veröffentlichungsnummer:

(11)

Publication number:

(11)

Numéro de publication:

1 037 806

Internationale Anmeldung veröffentlicht durch die
Weltorganisation für geistiges Eigentum unter der Nummer:

WO 99/29576 (art.158 des EPÜ).

International application published by the World
Intellectual Property Organisation under number:

WO 99/29576 (art.158 of the EPC).

Demande internationale publiée par l'Organisation
Mondiale de la Propriété sous le numéro:

WO 99/29576 (art.158 de la CBE).

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 6 : B65B 61/26	A1	(11) International Publication Number: WO 99/29576 (43) International Publication Date: 17 June 1999 (17.06.99)
---	-----------	---

(21) International Application Number: PCT/US98/25962

(22) International Filing Date: 8 December 1998 (08.12.98)

(30) Priority Data:
08/989,017 11 December 1997 (11.12.97) US

(71) Applicant: BAUSCH & LOMB INCORPORATED [US/US];
One Bausch & Lomb Place, Rochester, NY 14604-2701 (US).

(72) Inventors: GODLY, Margaret, Mary, R.; 140 Galvin Court,
Farmington, NY 14425 (US). PIERCE, Joan, L.; 12
Hurlingham Drive, Honeoye Falls, NY 14472 (US).

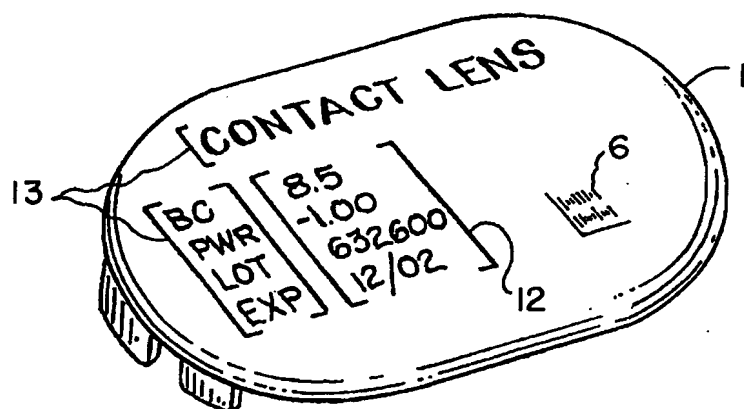
(74) Agents: KONKOL, Chris, P. et al.; Bausch & Lomb In-
corporated, One Bausch & Lomb Place, Rochester, NY
14604-2701 (US).

(81) Designated States: AL, AU, BA, BB, BG, BR, CA, CN, CU,
CZ, EE, ES, FI, GB, GE, HU, IL, IN, IS, JP, KE, KG, KP,
KR, LC, LK, LR, LT, LV, MD, MG, MK, MN, MW, MX,
NO, NZ, PL, PT, RO, RU, SE, SG, SI, SK, SL, TJ, TR,
TT, UA, UZ, VN, ARIPO patent (GH, GM, KE, LS, MW,
SD, SZ, UG, ZW), European patent (AT, BE, CH, CY, DE,
DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE),
OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML,
MR, NE, SN, TD, TG).

Published

With international search report.

(54) Title: METHOD FOR LABELING PACKAGES CONTAINING CONTACT LENSES



(57) Abstract

A method for labeling packages containing contact lenses involves applying to a package that contains a contact lens a machine-readable code identifying characteristics of the contact lens in the package, and later applying to the package printed language information generated from the machine readable code. The printed language information can be applied to the package at a site and/or time remote from the packaging and sterilization operations while ensuring product integrity.

FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
AM	Armenia	FI	Finland	LT	Lithuania	SK	Slovakia
AT	Austria	FR	France	LU	Luxembourg	SN	Senegal
AU	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	TD	Chad
BA	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav Republic of Macedonia	TM	Turkmenistan
BF	Burkina Faso	GR	Greece			TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IL	Israel	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
CH	Switzerland	KG	Kyrgyzstan	NO	Norway	ZW	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's Republic of Korea	NZ	New Zealand		
CM	Cameroon			PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakhstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

METHOD FOR LABELING PACKAGES CONTAINING CONTACT LENSES

Background of the Invention

This invention relates to a method for labeling packages containing contact lenses. The method involves applying to a package that contains a contact lens a machine-readable code identifying characteristics of the contact lens in the package, and applying to the package after sterilization, printed language information generated from the machine readable code. The printed language information can be applied to the package at a site and/or time remote from the packaging and sterilization operations.

A conventional manner of packaging contact lenses is in so-called "blister packages". Such packages include a recess designed to hold an individual lens, with the lens usually being immersed in a saline solution in the case of soft hydrogel lenses. The packages are then enclosed and sealed with a lidstock. The packages include printed language information on their exterior, to indicate details on the package contents, for example, the type of contact lens, and usually other information, for example, the manufacturer or brand name.

A conventional manner of marking the packages involves, prior to sterilization, applying to the package a label or some type of printing that includes desired printed language information identifying specifications and/or manufacturing data of the contact lens contained in the package. A drawback of this approach is that this "final" label or printing must be able to withstand sterilization conditions. It is also possible to add the desired printed language information to the package immediately after sterilization, a drawback of this latter approach being that the information regarding specifications and/or manufacturing data of the lenses must be tracked through the sterilization operation to maintain product integrity, which can be an issue when the sterilization operation is a batch process (i.e., following packaging, lenses are not immediately sterilized). A drawback of both approaches is that once the "final" label or printing is applied to the package, adding additional printed language information or changing the printed language information is difficult.

Summary of the Invention

The present invention provides a method comprising: packaging and sterilizing a contact lens, wherein packaging comprises placing a contact lens in a recess of a package and sealing the recess with lidstock, and wherein sterilization comprises sterilizing the package contents; applying to the package a machine-readable code including information identifying specifications of the contact lens contained in the package; and subsequently, applying to the package printed language information generated from the machine-readable code and identifying specifications of the contact lens contained in the package. Preferably, the method comprises the following sequential steps: packaging the contact lens; applying to the package the machine-readable code; sterilizing the package contents; and applying to the package the printed language information generated from the machine-readable code.

Accordingly, it is possible to add desired printed language information subsequent to the packaging operation while ensuring product integrity (i.e., ensuring that an individual package includes obtainable information on the specifications of the contact lens contained therein). Also, it is possible to apply printed language information to the package at a site remote from the packaging and sterilization operations. As an example, in the case where one manufacturing site is supplying product to multiple locations with different labeling requirements, the method allows the desired printed language information to be added to the package locally rather than requiring the base manufacturing site to supply and inventory multiple packages with the different labeling requirements.

Brief Description of the Drawing Figures

FIG. 1 is a top perspective view of a contact lens blister package;
FIG. 2 is a top perspective view of the blister package of FIG. 1 with lidstock in place;
FIG. 3 is a top perspective view of the blister package of FIGs. 1 and 2 with a label contained printed language information according to a first embodiment; and
FIG. 4 is a top perspective view of the blister package of FIGs. 1 and 2 with a label contained printed language information according to a second embodiment.

Detailed Description of Preferred Embodiments

FIGs. 1 to 3 illustrate a blister package for contact lenses, it being understood, however, that the invention is applicable to other blister packages. As seen in FIG. 1, contact lens 3 is placed in recess 2 of blister package 1, recess 2 designed to hold an individual contact lens. Conventionally, recess 2 will also be partially filled with saline solution in the case where the contact lens is a soft hydrogel contact lens. Recess 2 terminates at surface 4.

As seen in FIG. 2, lidstock 5 is sealed to surface 4 so as to sealingly encase recess 2 and enclose package 1, in other words, the function of the lidstock is to sealingly enclose lens 3 (and saline solution, if present) in recess 2. The lidstock is conventionally a lidstock containing an aluminum layer, such lidstock being sufficiently durable to protect the package contents during shipping and storage and also able to withstand sterilization conditions.

As seen in FIG. 2, machine-readable code 6 is applied to the package on lidstock 5. As used herein, the term "printed language information" denotes information that includes printed words and/or numerals, i.e., words and/or numerals that are readily discernible by a person. As used herein, the term "machine-readable code" denotes symbols forming an informational code that is machine-readable and that is not directly readable by a person (i.e., is not readily discernible by a person without the aid of a machine or without otherwise decoding the symbols). Thus, a "machine-readable code" requires machine assistance to read the code and translate the code into "printed language information".

An example of machine-readable code is high-density two-dimensional bar code, such as code commonly referred to as "data matrix bar code". For the described embodiment, code 6 is first imprinted on tag 7 and then the tag is applied to the package. (Alternately, code 6 could be imprinted directly on the lidstock.)

Code 6 includes relevant information on the specifications of the specific lens 3 included in the package, particularly lens power and lens dimensions (for example, diameter and/or base curve). Code 6 may also include information relating to the manufacturing process used for the specific contact lens, such as manufacturing lot number and manufacturing date or expiration date derived from the manufacturing date.

Code 6 can be printed on tag 7 (or directly to lidstock 5 if desired, as mentioned above) by an ink jet or thermal transfer printer, one example being a thermal transfer printer suitable for printing data matrix code, like those manufactured by Sato America (Sunnyvale, California, USA). For the described embodiment, code 6 is readable with a reader suitable for reading data matrix code, one example being a reader available from Acuity Imaging Inc. (Nashua, New Hampshire, USA).

After applying tag 7 containing code 6, the package and its contents are sterilized, for example, in an autoclave. It is within the scope of the invention to apply code 6 to the lidstock prior to sterilization, but in this case, it is necessary to ensure that the packages are tracked and identified through the sterilization operation to ensure product integrity. For this reason, it is preferred that code 6 is applied to the package prior to sterilization, and further that code 6 is applied to the package immediately after packaging the lens in the blister package, thereby providing the benefit of ensuring product integrity at all points following the packaging operation via code 6 applied to each individual package.

Additionally, it will be appreciated that it is unnecessary to immediately label the package with printed language information. Rather, since code 6 contains the relevant information regarding the lens specifications and manufacture, the sterile, packaged lens can be inventoried for later application of printed language information to the package, or shipped to a site remote from the manufacturing site without the printed language information. As an example, packaged lenses manufactured at a single manufacturing site can be shipped to multiple countries having different language requirements; at these downstream sites, code 6 is read, and a final labeling, including printed language information generated from reading code 6, can be added to the contact lens package.

According to a preferred embodiment, an adhesive-backed label 10, having printed thereon the printed language information 11 derived from code 6, is adhered to the lidstock of one or more contact lens packages. Alternately, this final labeling could be printed language information derived from code 6 and applied directly to the lidstock, such as by an ink jet or thermal transfer printer. As yet another alternative, as shown in FIG. 4, it is within the scope of the invention for the package to add printed language information 12 derived from code 6 to lidstock that already includes initially partial

printed language information 13 (i.e., partial printed language information is initially present in addition to the machine-readable code 6); one example where this may be desirable is the case where a tradename or other text is common to all packages regardless of ultimate destination. FIG. 4 also illustrates that it is not required to conceal code 6 with the added printed language information.

The method of this invention can greatly reduce the types of packaged lenses to be inventoried. Only lenses without printed language information need to be inventoried and printing of the language information can be performed reliably later, and, as mentioned, at a remote site if desired. Nonetheless, the package would still include machine-readable code 6, and code 6 would be used to generate additional printed language information obtained from code 6 at a time and/or site remote from the packaging and sterilization operations.

Following the provision of the final labeling including all printed language information, individual blister packages can be placed in a secondary carton, conventionally having the form of a paperboard box designed to hold a predetermined number of contact lens packages. Frequently, an insert is added to the secondary carton along with the packaged lenses, the insert providing further printed language information, for example, instructions for a user of the lens. If desired, the insert can be specific to the lenses in a specific secondary carton, whereby information read from code 6 is also used to generate part of the printed language information in the insert for a specific carton.

Many other modifications and variations of the present invention will be evident to the skilled practitioner. For example, as mentioned above, the invention is applicable to other blister packages than those shown in the figures, and is adaptable to the packaging operations therefor. For example, blister packages may be interconnected with a single sheet of lidstock, or alternately, the adhesive-backed label may be adhered to multiple blister packages having individual sections of lidstock. It is therefore understood that, within the scope of the claims, the present invention is not limited to the described preferred embodiments and can be practiced other than as herein specifically described.

We claim:

1. A method comprising:
packaging and sterilizing a contact lens, wherein packaging comprises placing a contact lens in a recess of a package and sealing the recess with lidstock, and wherein sterilization comprises sterilizing the package contents,
applying to the package a machine-readable code including information identifying specifications of the contact lens contained in the package;
and subsequently, applying to the package printed language information generated from the machine-readable code and identifying specifications of the contact lens contained in the package.
2. The method of claim 1, wherein the machine-readable code includes information identifying power of the contact lens contained in the package.
3. The method of claim 2, wherein the machine-readable code further includes information identifying at least one of base curve or diameter of the contact lens.
4. The method of claim 2, wherein the machine-readable code further includes information identifying at least one of manufacturing lot number, manufacturing date and contact lens expiration date.
5. The method of claim 1, comprising stepwise:
packaging the contact lens;
applying to the package the machine-readable code;
sterilizing the package contents; and
applying to the package the printed language information generated from the machine-readable code.

6. A method comprising:
 - packaging and sterilizing a contact lens, wherein packaging comprises placing a contact lens in a recess of a package and sealing the recess with lidstock, and wherein sterilization comprises sterilizing the package contents,
 - applying to the package a machine-readable code including information identifying specifications of the contact lens contained in the package;
 - and subsequently, at a site remote from packaging and sterilization operations, applying to the package printed language information generated from the machine-readable code and identifying specifications of the contact lens contained in the package.
7. The method of claim 6, comprising stepwise:
 - packaging the contact lens;
 - applying to the package the machine-readable code;
 - sterilizing the package contents; and
 - applying to the package, at the site remote from packaging and sterilization operations, the printed language information generated from the machine-readable code.

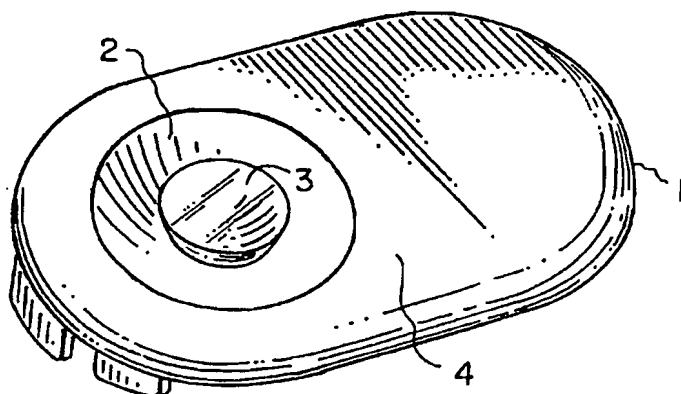


FIG. 1

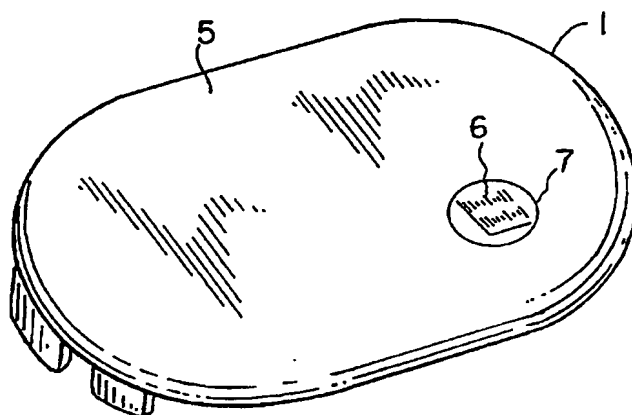


FIG. 2

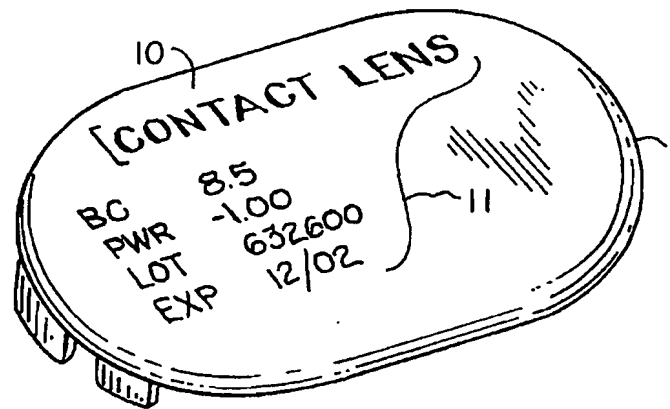


FIG. 3

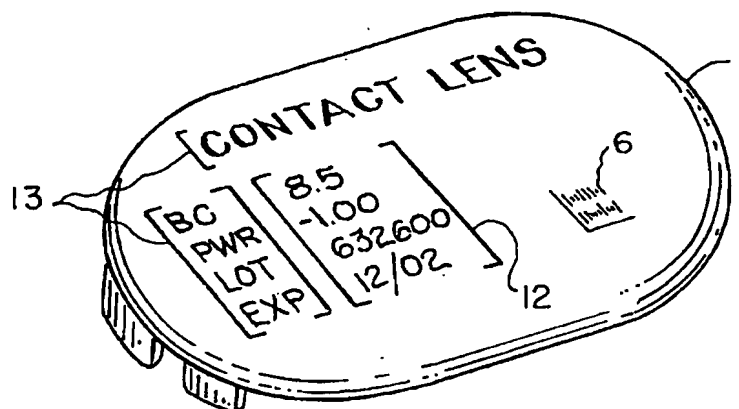


FIG. 4

INTERNATIONAL SEARCH REPORT

International Application No
PCT/US 98/25962

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 B65B61/26

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B65B B65D

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	EP 0 686 558 A (JOHNSON & JOHNSON VISION PROD) 13 December 1995 see page 5, line 33 - page 6, line 12 see page 8, line 47 - line 52; figure 1	1,5-7
Y	WO 94 06689 A (GARWOOD ANTHONY JAMES MURRAY) 31 March 1994 see page 11, line 7 - page 12, line 25; claims; figures	1,5-7
A	EP 0 686 563 A (JOHNSON & JOHNSON VISION PROD) 13 December 1995 see page 5, line 46 - page 6, line 35; claims; figures	2-4
	-/--	

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"A" document member of the same patent family

Date of the actual completion of the international search

2 March 1999

Date of mailing of the international search report

09/03/1999

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Jagusiak, A

INTERNATIONAL SEARCH REPORT

Inter. nat. Application No
PCT/US 98/25962

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	EP 0 686 564 A (JOHNSON & JOHNSON VISION PROD) 13 December 1995 see page 5, line 3 - page 7, line 11; figures ---	2-4
A	DE 44 20 707 A (STIEFENHOFER GMBH C) 15 December 1994 ---	
A	EP 0 765 741 A (JOHNSON & JOHNSON VISION PROD) 2 April 1997 ---	
A	US 4 655 026 A (WIGODA LUIS T) 7 April 1987 ---	
P,X	US 5 842 325 A (M. GODLY) 1 December 1998 see the whole document -----	1-7

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No
PCT/US 98/25962

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0686558	A	13-12-1995	US 5626000 A AU 2057595 A BR 9502754 A CA 2151345 A CZ 9501481 A JP 8072808 A US 5623816 A	06-05-1997 21-12-1995 16-01-1996 11-12-1995 17-09-1997 19-03-1996 29-04-1997
WO 9406689	A	31-03-1994	AU 4811493 A	12-04-1994
EP 0686563	A	13-12-1995	US 5620087 A AU 680751 B AU 2057395 A BR 9502740 A CA 2151348 A CZ 9501466 A JP 8054824 A	15-04-1997 07-08-1997 21-12-1995 16-01-1996 11-12-1995 13-12-1995 27-02-1996
EP 0686564	A	13-12-1995	US 5565059 A AT 170480 T AU 2058095 A BR 9502727 A CA 2151346 A CZ 9501457 A DE 69504418 D JP 8047989 A US 5674347 A US 5658410 A US 5776297 A	15-10-1996 15-09-1998 21-12-1995 16-01-1996 11-12-1995 17-09-1997 08-10-1998 20-02-1996 07-10-1997 19-08-1997 07-07-1998
DE 4420707	A	15-12-1994	DE 9421086 U AT 147343 T CZ 9401442 A DE 59401504 D EP 0630820 A	20-04-1995 15-01-1997 15-12-1994 20-02-1997 28-12-1994
EP 0765741	A	02-04-1997	AU 6556196 A CA 2186718 A JP 9169357 A	10-04-1997 30-03-1997 30-06-1997
US 4655026	A	07-04-1987	NONE	
US 5842325	A	01-12-1998	NONE	